



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/537,173

12/02/2005

Federico Pavan

07040.0230

8050

22852 7590 08/31/2010  
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER  
LLP  
901 NEW YORK AVENUE, NW  
WASHINGTON, DC 20001-4413

EXAMINER

SULLIVAN, DEBRA M

ART UNIT

PAPER NUMBER

3725

MAIL DATE

DELIVERY MODE

08/31/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/537,173	<b>Applicant(s)</b> PAVAN ET AL.	
	<b>Examiner</b> DEBRA M. SULLIVAN	<b>Art Unit</b> 3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 32-46,48,50-59,61 and 63-67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-46,48,50-59,61 and 63-67 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 6, 2010 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 32-46, 48, 50-59 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerspacher (US Patent # 4,143,209) in view of Shemenaki et al (US Patent # 4,545,834) and Arias et al (US 2002/0133129). Gerspacher discloses (at column 2, lines 15-39) the basic claimed method of forming a coated metal wire by thermally treating the metal core (steel wire), submitting the core to a surface treatment (cleaning/pickling/water rinsing) to prepare the core for coating, coating the metal core with a metal coating and drawing the metal-coated metal core to reduce the diameter of the coated core to a finely coated wire. The metal core initially has a diameter of 0.9 to 1.4 millimeters and the final diameter of the coated wire is in the range of 0.08 to 0.40 millimeters. In light of this large reduction in diameter of the wire from its initial size to its final size, it is evident that the final wire will have a smaller coating

Art Unit: 3725

thickness than originally provided and a smaller core diameter than originally provided. Gerspacher further discloses the metal coating layer comprises of a copper-zinc metal layer. Gerspacher discloses the invention substantially as claimed except for wherein the metal coating layer comprises a ternary alloy. However Shemenski et al teaches of providing a ternary metal coating layer comprises of copper-zinc-iron in order to improve the adhesion properties between the metal reinforcing element and the rubber [see col. 2 lines 35-39]. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the copper-zinc metal coating layer of Gerspacher with the ternary metal coating layer containing copper-zinc-iron in order to improve the adhesion properties between the metal reinforcing element and rubber. Gerspacher further discloses the coating is deposited on the metal core by an electroplating process. Gerspacher discloses the invention substantially as claimed except for wherein the coating is deposited on the metal core using a plasma deposition technique. However, Arias et al teaches it is known in the coating art that electroplating and plasma deposition techniques are known equivalents for depositing a metal coating on an object. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the electroplating process of Gerspacher with a plasma deposition process since Arias et al teaches the processes are known equivalents in the coating art. The speed would have been selected based upon available hardware and desired finishing outcomes. This has not been disclosed as a critical provision. The manner of drying, i.e., by a blower, would have been within the purview of the skilled artisan. Claim 40 is considered inherently performed by Sawada's plasma CVD or chemical vapor deposition or sputtering vapor phase method (see Sawada at column 3, lines 26-33). Similarly, the pressures would have been

Art Unit: 3725

obvious ranges barring any critical features. Sawada shows two coating chambers at 14. Descaling is commonly performed in the coating art to provide a clean surface for the coating. As to the different dimensions, i.e., thickness, diameters, it is the examiner's position that Gerspacher teaches the basic dimensional variations in the initial and final shaping operations by virtue of the fact that the core is coated with a predetermined thickness that results in a finely coated wire having a final diameter of 0.25 mm (see column 4, lines 21-23) with a coating thickness of around 10 Angstroms. With regards to claim 63, Gerspacher discloses coating the metal core via a single deposition step [it is noted that Gerspacher fails to disclose multiple or plural deposition steps, therefore it is inherent that the deposition step is a single step]. With regards to claim 64, Shemenski et al further teaches the ternary metal alloy comprises copper, zinc and iron. With regards to claim 65, Shemenski et al further teaches of sequentially depositing layers of copper, zinc and then iron onto the metal core [see col. 3 lines 64-65]. With regards to claim 67, while Shemenski et al teaches of the ternary metal alloy to comprises of copper, zinc and iron, applicant has equated manganese, cobalt, tin, iron and molybdenum to be interchangeable without destroying the invention; therefore it would have been obvious to one having ordinary skill in the art to substitute the iron for manganese, cobalt, tin or molybdenum.

2. Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gerspacher in view of Shemenski et al and Arias et al as applied to claim 65 above, and further in view of De Filippo et al. Gerspacher discloses the coating is formed of brass but fails to disclose the brass having a crystalline structure consisting of alpha face-centered-cubic brass. However, De Filippo et al teaches of coating a steel wire with alpha face-centered-cubic brass in order to obtain a satisfying behavior to drawing as well as a satisfying adhesion to the steel surface [See col. 1

Art Unit: 3725

lines 22-27]. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the brass coating of Gerspacher with the alpha face-centered-cubic brass as taught by De Filippo et al in order to obtain a satisfying behavior to drawing and adhesion to the steel surface.

### ***Response to Arguments***

Applicant's arguments with respect to claims 32-46, 48, 50-59, 61 and 63-67 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Debra Sullivan whose telephone number is (571) 272-1904. The examiner can normally be reached Monday - Friday 8am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached at (571) 272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Debra M Sullivan/  
Examiner, Art Unit 3725